

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 2-14 (Cancelled)

15. (Currently Amended) A method for reducing the thrombogenic character of an exchanger for treating blood or plasma by extracorporeal circulation, comprising two compartments separated by a semipermeable membrane having a surface oriented towards a first compartment intended for the circulation of blood or plasma, the method comprising:

(a) preparing a semipermeable membrane ~~having pores~~, in the form of a flat membrane or a bundle of hollow fibres, from a solution of polyacrylonitrile carrying anionic or anionizable groups;

(b) assembling the various components of the exchanger, in particular fitting the semipermeable membrane or a bundle of hollow fibres in a case;

c) preparing a solution containing at least one cationic polymer carrying cationic groups that form ionic bonds with the anionic or anionizable groups of the polyacrylonitrile, the cationic polymer further comprising only polymer chains whose size is sufficient for the chains not to pass through ~~penetrate into the pores of the~~ semipermeable membrane, and bringing this solution into contact with the surface of the semipermeable membrane intended to be placed in contact with the blood or plasma, stage (c) being carried out before or after stage (b);

(d) in the event that stage (c) is carried out after stage (b), purging the exchanger of the solution containing the cationic polymer;

(e) preparing a solution containing, in the dissolved state, at least one anticoagulant agent carrying anionic groups that form ionic bonds with the cationic groups of said cationic polymer, and bringing this solution into contact with the surface of the semipermeable membrane intended to be placed in contact with the blood, stage (e) being implemented after stage (c) but before or after stage (b); and

(f) in the event that stage (e) is carried out after stage (b), purging the exchanger of the solution containing the anticoagulant agent.

16. (Previously Presented) A method according to claim 15, wherein the semipermeable membrane is rinsed in order to remove the excess unbound cationic polymer, either after stage (c) when stage (c) is carried out before stage (b), or after stage (d).

17. (Previously Presented) A method according to claim 15, wherein the semipermeable membrane is rinsed in order to remove the excess unbound anticoagulant agent, either after stage (e) when stage (e) is carried out before stage (b), or after stage (f).

18. (Currently Amended) A method according to one of claims 15, 16 or 17, wherein the exchanger is sterilized following ~~[[the]]~~ a coating of the semipermeable membrane with the cationic polymer, said sterilization being completed before coating the semipermeable membrane with a solution containing at least one anticoagulant agent.

19. (Currently Amended) A method according to one of claims 15, 16 or 17, wherein the exchanger is sterilized ~~following the coating of~~ when the semipermeable

membrane based on polyacrylonitrile carrying anionic or anionizable groups is coated
~~first~~ with the cationic polymer and ~~then with~~ the anticoagulant agent.

20. (Currently Amended) A method according to claim 15, wherein the cationic polymer is prepared by ultrafiltration using a separate semipermeable membrane which is identical to the semipermeable ~~support~~ membrane or which has a cut-off threshold equal to or greater than that of the semipermeable ~~support~~ membrane, in order to exclude the cationic polymer chains capable of passing through the semipermeable ~~support~~ membrane.

Claims 21-22 (Cancelled)

23. (Previously Presented) A method according to claim 18, wherein said sterilization includes sterilizing the semipermeable membrane with gamma irradiation or with ethylene oxide.

24. (Previously Presented) A method according to claim 19, wherein said sterilization includes sterilizing the semipermeable membrane with gamma irradiation or with ethylene oxide.

25. (Previously Presented) A method for preparing a composite semipermeable membrane comprising the consecutive steps of:

coating a semipermeable support base layer having pores with a first layer having a cationic polymer including cationic groups that form ionic bonds with said anionic or anionizable groups of the support base layer, said cationic polymer further comprising chains having an associated steric hindrance that prevents said chains from penetrating into said pores of the support base layer; and

coating the first layer with a second layer, said second layer having an anticoagulant agent having anionic groups that form ionic bonds with the cationic groups of the first layer.

26. (New) A method for reducing the thrombogenic character of an exchanger for treating blood or plasma by extracorporeal circulation, comprising two compartments separated by a semipermeable membrane having a surface oriented towards a first compartment intended for the circulation of blood or plasma, the method comprising:

(a) preparing a semipermeable membrane, in the form of a flat membrane or a bundle of hollow fibres, from a solution of polyacrylonitrile carrying anionic or anionizable groups;

(b) assembling the various components of the exchanger, in particular fitting the semipermeable membrane or a bundle of hollow fibres in a case;

(c) preparing a solution containing at least one cationic polymer carrying cationic groups that form ionic bonds with the anionic or anionizable groups of the polyacrylonitrile, the cationic polymer further comprising only polymer chains whose size is sufficient for the chains not to pass through the semipermeable membrane, and bringing this solution into contact with the surface of the semipermeable membrane intended to be placed in contact with the blood or plasma, stage (c) being carried out before or after stage (b);

(d) in the event that stage (c) is carried out after stage (b), purging the exchanger of the solution containing the cationic polymer;

(e) preparing a solution containing, in the dissolved state, at least one anticoagulant agent carrying anionic groups that form ionic bonds with the cationic groups of said cationic polymer, and bringing this solution into contact with the surface of the semipermeable membrane intended to be placed in contact with the blood, stage (e) being implemented after stage (c) but before or after stage (b);

(f) in the event that stage (e) is carried out after stage (b), purging the exchanger of the solution containing the anticoagulant agent; and

(g) sterilizing the exchanger when the semipermeable membrane based on polyacrylonitrile carrying anionic or anionizable groups is coated with the cationic polymer and the anticoagulant agent.

27. (New) A method according to claim 15 or 26, wherein said cationic polymer is polyethyleneimine, an amount of said cationic polymer brought into contact with the semipermeable membrane being between approximately 1 mg and approximately 30 mg per m² of membrane (including end points).

28. (New) A method according to claim 15 or 26, wherein the cationic polymer is prepared by ultrafiltration using a separate semipermeable membrane which is identical to the semipermeable membrane or which has a cut-off threshold equal to or greater than that of the semipermeable membrane, in order to preclude said chains of the cationic polymer from passing through the semipermeable membrane.

29. (New) A method according to claim 15 or 26, wherein said anticoagulant agent consists essentially of heparin, an amount of said anticoagulant agent brought into contact with the semipermeable membrane being between approximately 200 IU and approximately 20,000 IU per m² of membrane (including end points).